

REMARKS

Claims 1-2, 40-43, and 45-52 were presented for examination and were rejected.

No claims have been amended.

The applicants respectfully request reconsideration in light of the following comments.

35 U.S.C. § 102 Rejection of Claims 1-2, 40, 46 and 49

Claims 1-2, 40, 46 and 49 were rejected under 35 U.S.C. § 102(b) as being anticipated by Houston et al., U.S. Patent Publication 2002/0179166 (hereinafter "Houston"). The applicants respectfully traverse the rejection.

Claim 1 recites:

<p>1. A tubular conduit comprising:</p> <ul style="list-style-type: none">a tubular portion comprising an inside and an outside and being made from a flexible material;an axially extending external helical formation located around the outside of the tubular portion for supporting the tubular portion; andan axially extending internal helical protrusion located around the inside of the tubular portion for imparting a helical flow to a fluid passing through the tubular portion, <u>having a different helix angle from the external helical formation.</u> <p><i>(emphasis supplied)</i></p>

Nowhere does Houston teach or suggest, alone or in combination with the other references, what claim 1 recites — namely that the axially extending internal helical protrusion has a different helix angle from the external helical formation.

In the Office action, the Examiner refers to the graft 3 and the helix structure 100 that are disclosed in Houston and alleges that the combination of the graft and helix structure reads on to the tubular conduit defined in pending claim 1. In particular, the Examiner argues that the ribs 1a to 1c of Houston are equivalent to the "axially extending external helical formation" of pending claim 1 and that the groove formations 4a to 4c that are imposed when the helix structure 100 is fitted over the graft 3, correspond to the "axially extending internal helical protrusion" of pending claim 1.

The Examiner goes on to assert that "It would be inherent that the internal helix angle would be different from the external helix angle, because the angle of the helical flow formation is determined from the internal dimensions of the conduit, the fluid mass flow of the conduit, the pressure drop along the conduit and the turbulent kinetic energy within the conduit [0006]." The applicants disagree with this statement. It is completely essential to the product disclosed in Houston that the ribs 1a to 1c have an identical helix angle to the groove formations 4a to 4c. Indeed, the groove formations 4a to 4c must have the same helix angle as the ribs 1a to 1c because the groove formations 4a to 4c are imposed by ribs 1a to 1c (see paragraph 0047 of Houston). In the same way that a mould and its moulded product are counterparts to each other, the ribs 1a to 1c and the groove formations 4a to 4c have the same configuration.

While the Examiner is correct that the angle of the helical flow formation is determined "from the internal dimensions of the conduit, the third mass flow of the conduit, the pressure drop along the conduit and the turbulent kinetic energy within the conduit" (see paragraph 0006 of Houston), it is also stated in this passage that, "the helical structure forms the helical flow formation inside the conduit," so that it is clear that both the helical structure (*i.e.*, the ribs 1a to 1c) and the groove formations (4a to 4c) have the same helix angle. By referring to Figure 2a of Houston it is, again, self-evident that the helix angle of the ribs 1a to 1c and the groove formations 4a to 4c must necessarily be the same.

Accordingly, the Examiner is incorrect to assert that Houston discloses the feature that the axially extending internal helical protrusion has a different helix angle from the external helical formation.

For this reason, the applicants respectfully submit that the Houston rejection of claim 1 is traversed.

Because claims 2, 40, 46, and 49 depend on claim 1, the applicants respectfully submit that the rejection of them is also traversed.

35 U.S.C. § 102 Rejection of Claims 1-2, 40, 41, 43, 45-49 and 52

Claims 1-2, 40, 41, 43, 45-49, and 52 were rejected under 35 U.S.C. § 102(e) as being anticipated by Caro et al., U.S. Patent Publication 2007/0021707 (hereinafter "Caro"). The applicants respectfully traverse the rejection.

Claim 1 recites:

1. A tubular conduit comprising:
a tubular portion comprising an inside and an outside and being made from a flexible material;
an axially extending external helical formation located around the outside of the tubular portion for supporting the tubular portion; and
an axially extending internal helical protrusion located around the inside of the tubular portion for imparting a helical flow to a fluid passing through the tubular portion, having a different helix angle from the external helical formation.
(emphasis supplied)

Nowhere does Caro teach or suggest, alone or in combination with the other references, what claim 1 recites — namely an axially extending internal helical protrusion located around the inside of the tubular portion.

In the Office action, the Examiner asserts that Caro discloses a graft comprising flow tubing having “a tubing portion” and the tubing portion “is the helical protrusion located around the inside of the tubular portion.” In this regard, the Examiner refers to paragraphs 0013 and 0015 of Caro.

However, the applicants do not accept this assertion of the Examiner because there is no disclosure in Caro of “an axially extended internal helical protrusion located around the inside of the tubular portion” (emphasis added) as recited in pending claim 1. It is explicitly stated in paragraph 0013 of Caro that “the flow lumen of said tubing portion [is] substantially free of ribs or grooves.” As the flow lumen is free of ribs or grooves there cannot be any internal helical protrusion. On the contrary, in Caro, the inside of the tubing portion is smooth. Accordingly, there is simply no disclosure in Caro of the feature of “an axially extending internal helical protrusion located around the inside of the tubular portion.”

Furthermore, the Examiner’s statement that “the tubing portion is the helical protrusion” (emphasis added) has no meaning. If the tubing portion of Caro is the helical protrusion of pending claim 1, then what is the counterpart in Caro to the “tubular portion” of pending claim 1? To put it another way, into what does the tubing portion of Caro protrude? The Examiner’s analysis is incorrect because there is no counterpart in Caro to the axially extending internal helical protrusion of pending claim 1.

For this reason, the applicants respectfully submit that the Caro rejection of claim 1 is traversed.

Because claims 2, 40, 41, 43, 45-49, and 52 depend on claim 1, the applicants respectfully submit that the rejection of them is also traversed.

35 U.S.C. § 103 Rejection of Claims 42 and 50

Claims 42 and 50 were rejected under 35 U.S.C. § 103 as being unpatentable over Caro in view of Murch, U.S. Patent Publication 2003/0225453 (hereinafter "Murch").

Because claims 42 and 50 depend on claim 1 and because Murch fails to cure the deficiencies of either Caro or Houston with respect to the rejections of claim 1, the applicants respectfully submit that the rejection of them is traversed as well.

35 U.S.C. § 103 Rejection of Claim 51

Claim 51 is rejected under 35 U.S.C. § 103 as being unpatentable over Caro in view of McHaney et al, U.S. Patent 5,827,327 (hereinafter "McHaney").

Because claim 51 depends on claim 1 and because McHaney fails to cure the deficiencies of either Caro or Houston with respect to the rejections of claim 1, the applicants respectfully submit that the rejection of claim 51 is traversed as well.

Request for Reconsideration Pursuant to 37 C.F.R. 1.111

Having responded to each and every ground for objection and rejection in the last Office action, applicants respectfully request reconsideration of the instant application pursuant to 37 CFR 1.111 and request that the Examiner allow all of the pending claims and pass the application to issue.

If there are remaining issues, the applicants respectfully request that Examiner telephone the applicants' agent so that those issues can be resolved as quickly as possible.

Respectfully,
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